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**Europäisches
Patentamt**

Zweigstelle
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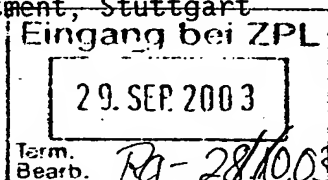
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Département à
La Haye
Division de la
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ALLEMAGNE



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Zeichen/Ref./Réf.

114 010

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.

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Anmelder/Applicant/Demandeur/Patentinhaber/Propriétaire/Titulaire

ALCATEL

COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☐ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☒ abstract

☒ title

☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract:

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REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 29 0921

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 1 298 766 A (NORTEL NETWORKS LTD) 2 April 2003 (2003-04-02) * abstract * * page 4, line 51 - page 5, line 9 * * page 5, line 35 - page 5, line 50 * * figures 1,5 *	1,2,9,10	H04B10/17 H01S3/30
D,A	EP 1 148 666 A (LUCENT TECHNOLOGIES INC) 24 October 2001 (2001-10-24) * abstract * * page 4, line 9 - line 28 * * figure 4 *	1-10	
A	CHEN ET AL: "Time domain characterization of transient effects and double Rayleigh backscattering noise in Raman amplifiers" OPTICAL FIBER CONFERENCE, 17 - 22 March 2002, pages 634-636, XP002254393 Anaheim, USA * the whole document *	1-10	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H04B H01S
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 12 September 2003	Examiner Ribbe, A
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 29 0921

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-09-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 1298766	A	02-04-2003	US	2003081307 A1	01-05-2003
			CA	2405180 A1	28-03-2003
			EP	1298766 A1	02-04-2003
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EP 1148666	A	24-10-2001	US	6611368 B1	26-08-2003
			CA	2339756 A1	20-10-2001
			EP	1148666 A2	24-10-2001
			JP	2002006349 A	09-01-2002
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This application is covered by the extended European search report pilot project at present running within the European Patent Office, applied to all European patent applications filed as first filing and searched on or after 01.07.03. Under this project the EPO issues together with the search report an opinion on whether the application and the invention to which it relates meet the requirements of the EPC. This non-binding opinion is issued free of charge as a service. This opinion may be used as the basis for an informed decision as to whether it is desired to pursue the application further or not.

For further details of this pilot project, the applicant's attention is directed to the Official Journal edition 5/2003. If any further immediate questions or comments arise the EPO Customer Services: +31-70-340 4500 or +49-89-2399 2828 can be contacted.

The attached opinion reveals that the application or the invention to which it relates appear not to meet the requirements of the Convention (see comments on enclosed Form 2906).

If the applicant wishes to continue with this application the examination fee must be paid. Where appropriate amendments can be filed to address the objections raised in the opinion, thus shortening the overall procedure. If no amendments are filed, the opinion will be re-issued as the first official communication under Article 96(2) and Rule 51(2) EPC.

If the examination fee has already been paid and the right to the communication under Article 96(1) EPC has been waived for this application, the first official communication under Article 96(2) and Rule 51(2) EPC will be issued promptly.



The examination is being carried out on the **following application documents**:

Text for the Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR LI

Description, pages:

5-13 as originally filed

Claims, No.:

1-10 as originally filed

Drawings, sheets:

1/5-5/5 as originally filed

1. The following document is referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: EP1298766 (Nortel Networks Limited, 2003-04-02)

2. Claims 1, 2, 9 and 10 do not meet the requirements of Article 84 EPC in that the matter for which protection is sought is not defined. The claims attempt to define the subject-matter in terms of the result to be achieved by using the formulation "*...so that a noise at a wavelength...do not experience high variations of gain in time.*" Such a definition is only allowable under the conditions elaborated in the Guidelines C-III, 4.7. In this instance, however, such a formulation is not allowable because it appears possible to define the subject-matter in more concrete terms, viz. in terms of how the effect is to be achieved. For example, see the formulation used in claims 3 or 4.
3. Furthermore, the various definitions of the invention given in independent claims 1, 3, 4 and 9 are such that the claims as a whole are not clear and concise,



contrary to Article 84 EPC. The claims should be recast to include only the minimum necessary number of independent claims in any one category, Rule 29(2) EPC, with dependent claims as appropriate, Rule 29(4) EPC. In the present case it is considered appropriate to use only one independent claim in any category.

3.1 It appears that the index Si in claim 3 (line 16) should read Sj.

4. Furthermore, the above-mentioned lack of clarity notwithstanding, the subject-matter of claims 1, 2, 9 and 10 is for the following reason not new in the sense of Article 54(1) and (2) EPC:

4.1 Using the wording of the present claim 1, document D1 discloses (the references in parentheses applying to figure 1 and the description of this document):

A Raman amplifying device (12) for amplifying signals comprising an optical path, pump sources (14, 16, 18, 20) for generating a plurality of Raman pump signals for backward pumping and means for coupling (24) the plurality of Raman pump signals into the optical path, wherein the plurality of Raman pump signals are time-division multiplexed (page 4, line 51- 55) by multiplexing controlling means and where the controlling means multiplex the pumps in time so that noise at a wavelength that co-propagates with the pump do not experience high variations of gain in time (page 5, line 35- 37).

The subject-matter of claim 1 is therefore not new (Article 54(1) and (2) EPC).

4.2 The objection above is also valid for the corresponding method claim 9.

4.3 The additional features of claims 2 and 10 are fully disclosed in D1.

5. Claims 3 and 4 appear to be novel and inventive (Articles 54 and 56 EPC), but as mentioned under point 3, the Applicant is asked to limit the application to one independent claim per category.



6. When filing new documents, please note the following points:
- 6.1 Any new independent claim submitted should be properly cast in the two part form (Rule 29(1) EPC), with those features which in combination are part of the prior art (see document D1) being placed in the preamble.
- 6.2 To meet the requirements of Rule 27(1)(b) EPC, document D1 should be identified in the description and the relevant background art disclosed therein should be briefly discussed.
- 6.3 The description must be brought into conformity with the new claims to be filed; care should be taken during revision, especially of the introductory portion including any statements of problem or advantage (Rule 27(1)(c) EPC), not to add subject-matter which extends beyond the content of the Application as originally filed, Article 123(2) EPC.

In order to facilitate the examination of the conformity of the amended application with the requirements of Article 123(2) EPC, the applicant is requested to clearly identify the amendments carried out, irrespective of whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based.

These indications should be submitted in handwritten form on a copy of the relevant parts of the application as filed.

In order to expedite the procedure the Applicant is requested to indicate with his reply where there is a basis for the amendments in the Application as originally filed.